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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/823,752

04/14/2004

Masashi Hosonuma

Q81057

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23373

7590

09/11/2006

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EXAMINER

BELL, BRUCE F

ART UNIT

PAPER NUMBER

1746

DATE MAILED: 09/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/823,752

Applicant(s)

HOSONUMA ET AL.

Examiner

Bruce F. Bell

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 9/14/04; 8/17/05; 2/8/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Andrews et al (US 2002/0134674).

Andrews et al disclose an anodic electrode having a porous electrode substrate of EBONEX (magnelli phase titanium oxide) onto which an electrocatalyst of boron doped diamond, glass carbon, platinum tungsten alloys, fluorinated graphite and more may be applied such as in an electrochemical ozone evolution. See paragraph [0051]. The porous anodic substrates can be in the form of particles or powders that are compressed and sintered or just compressed randomly oriented fibers, woven or non-woven cloth or mesh, screens, felt material, highly perforated metal sheets or metal sheets with microetched holes. See paragraph [0051].

Andrews et al anticipates the applicants instant invention as set forth in the instant claims. Even though Andrews et al is not specific to the mixture of the conductive diamond and magnelli powder, it would inherently form when the coating of the conductive diamond is applied to the magnelli powders of the substrate. The recitation with respect to the composition being 1/20 and 20/1 respectively for the diamond powder and the magnelli phase titanium oxide powder as set forth would

inherently be within the scope of the Andrews et al patent since the same materials are used in the making of the electrode. The manner in which the diamond electrode is made in claim 5 has been given no patentable weight, since apparatus claims must rely on features and since the diamond electrode has been found the instant claim has been anticipated.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimamune (EP 1489200).

Shimamune disclose a diamond electrode which is made by depositing a mixture of magnelli phase titanium oxide and diamond onto a conductive or semiconductive oxide precursor that forms the electrode substrate. The substrate materials can be copper, nickel, valve metals such as titanium, tantalum, zirconium or niobium or alloys or mixtures thereof and the substrate may be in the form of a flat sheet or plate, curved surface, punch plate, wire screen, expanded mesh sheet, rod or tube. See paragraphs [0005, 0008, 0009]. The percentage of electrode particles to electroconductive titanium oxide is 50% by wt. See paragraph [0027]. The patent further discloses that the diamond may be doped with boron. And the anodes used in the generation of oxygen, ozone, hydrogen peroxide , hydroxyl radicals, in water

electrolysis, water treatment, and electro-organic synthesis due to its good electric conductivity. See paragraph [0036]. See also examples for the electrode preparation.

Shimamune et al anticipate the applicants instant invention as shown by way of the disclosure above to Shimamune et al with respect with the instant claims as presented. Shimamune et al shows the combination mixture of the magnelli phase titanium oxide and the boron doped diamond that is deposited onto the electrode substrate and further shows the ratio of materials being used in the coating on the substrate. The manner in which the coating is applied to the electrode substrate in claim 5 has been given no patentable weight, since the final product of the diamond electrode has been found and the application has been examined based on the final product not on the method of making.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruce F. Bell whose telephone number is 571-272-1296. The examiner can normally be reached on Monday-Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BFB  
September 5, 2006

  
Bruce F. Bell  
Primary Examiner  
Art Unit 1746